A New Species of *Roegneria* (Poaceae: Triticeae) from Tibet

Jun-liang Yang and Yonghong Zhou
Triticeae Research Institute, Sichuan Agricultural University, Dujiangyan City 611830, Sichuan, People's Republic of China

ABSTRACT. *Roegneria tenuispica* is described and illustrated, and its chromosome number, $2n = 28$, is reported.

The new species was discovered during an expedition to Tibet in 1989 to collect germplasm of various members of the tribe Triticeae. Clumps of this plant were transplanted to the Triticeae Institute in order to obtain further supplies of seed material.

Roegneria tenuispica J. L. Yang & Y. H. Zhou, sp. nov. TYPE: China. Xizang (Tibet): Eluo, Changdu to Ruiwuqi highway 22 km, alt. 3,580 m, 25 Sep. 1989, *J. L. Yang & B. R. Lu 890955* (holotype, Sichuan Agricultural University Triticeae Institute). Figure 1.

Herba perennis caespitosa. Culmi 35–75 cm alti, glabri. Foliorum laminae 15–20 cm longae, 3–4 mm latae, superne villosae, inferne scabrae. Spicae 9.2–10.5 cm longae; spiculae 8–11, 1.3–1.6 cm longae; glumae oblongo-lanceolatae, apice acuminatae, primae 5–6.5 mm longae, secundae 6.5–7.5 mm longae, hirsutis; lemmata oblongo-lanceolata, 6.5–8 mm longa, inferne dense pubescentia, superne scabro-ciliata, arista 1–2 cm longa; paleae lemmate breviores vel eas aequantes. Caryopsides oblongae, ca. 5.5 × 1.5 mm, apice dense albo-hispidulae.

Herbs rhizomatous perennial. Culm loosely tufted, lax, caespitose, erect, 35–75 cm tall, ca. 0.5–1 mm diam., glabrous; nodes 4 or 5, puberulent. Leaves with sheaths longer than or equal to internodes, villose with hairs to ca. 1 mm, the persistent basal part often lacerate, fibrous; ligule hyaline-membranous, truncate, premorse, ca. 0.5 mm long; leaf blades green, 15–20 cm long, 3–4 mm wide, erect, plane or involute subulate, adaxially densely villose, abaxially scabrous. Spikes 9.2–10.5 cm long (excluding awn), thin, erect or slightly nodding; lower rachis internodes 1.2–1.5 cm long, the upper 0.8–1.2 cm, glabrous on the back, hispid ciliate on the edges; rachis nodes densely pubescent; spikelets 8–11, solitary, 1.3–1.6 cm long (excluding awn), with 4–9 florets; rachilla internodes 1–1.5 mm long, densely puberulent; glumes oblong-lanceolate, acuminate, with a mucro 0.5–1 mm long, herbaceous, membranous along the margin; first glume 5–6.5 mm long (excluding awn), 3–4-nerved; second glume 6.5–7.5 mm long, 4–5-nerved, hirsute; lemmas oblong-lanceolate, 6.5–8 mm long (excluding awn), the lower part densely pubescent, the upper scabrous-ciliate, distinctly 5-nerved; first lemma 7.5–8 mm long, with an awn 1–2 cm long; callus obtuse, densely puberulent laterally with hairs ca. 0.6–0.8 mm long; palea shorter than or subequal to the lemma, with a rounded-obtuse and a slightly concave apex, the keels ciliate in the upper ½–¾, hairy between the keels. Anthers yellow, 2–2.5 mm long. Caryopsis brown, oblong, ca. 5.5 × 1.5 mm, densely white hispidulous, adherent to the lemma and palea. Flowering July to August.

Roegneria tenuispica is readily distinguished from the closely related *R. pendulina* Nevski by its shorter culms, hairy leaves, narrower (3–4 mm) leaf blades, shorter spikes (9.2–10.5 cm long), and shorter glumes (5–6.5 mm long) and lemmas (6.5–8 mm long). *Roegneria pendulina* has culms to 110 cm tall, scabrous leaves, broader (6–10 mm) leaf blades, spikes 15–22 cm long, glumes 6–9 mm long, and lemmas 8–10 mm long.

The chromosome count $2n = 28$ of *Roegneria tenuispica* is based on the observation of 50 cells, and the karyotype shown in Figure 2a is rearranged in Figure 2b. The karyotype of this species includes a pair of satellites on what is designated here as chromosome 14. This karyotype is similar to that of *R. dolichathera* Keng (Zhou et al., 1993), which contains the SY genomes (Lu & Salomon, 1992).

Acknowledgments. This work was supported by the International Board for Plant Genetic Resources (IBPGR), Food and Agriculture Organization (FAO), the U.N., and the Foundation for Natural Sciences of China. We thank Ihsan Al-Shehbaz and Yuzhang Zhao for help in the preparation of the manuscript.

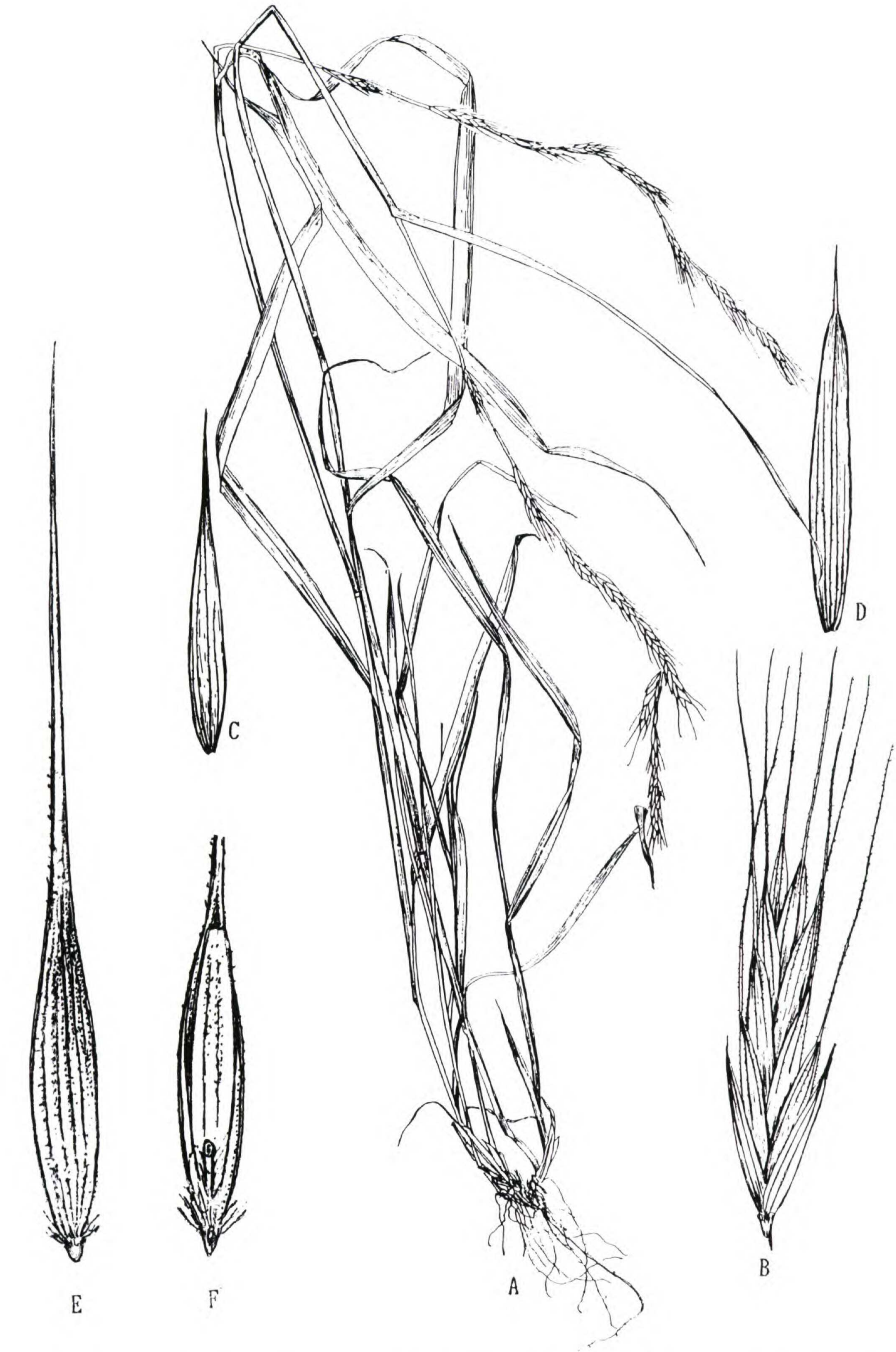

Figure 1. *Roegneria tenuispica* J. L. Yang & Y. H. Zhou. —A. Plant. —B. Spikelet. —C. First glume. —D. Second glume. —E. Abaxial view of a floret. —F. Adaxial view of a floret.

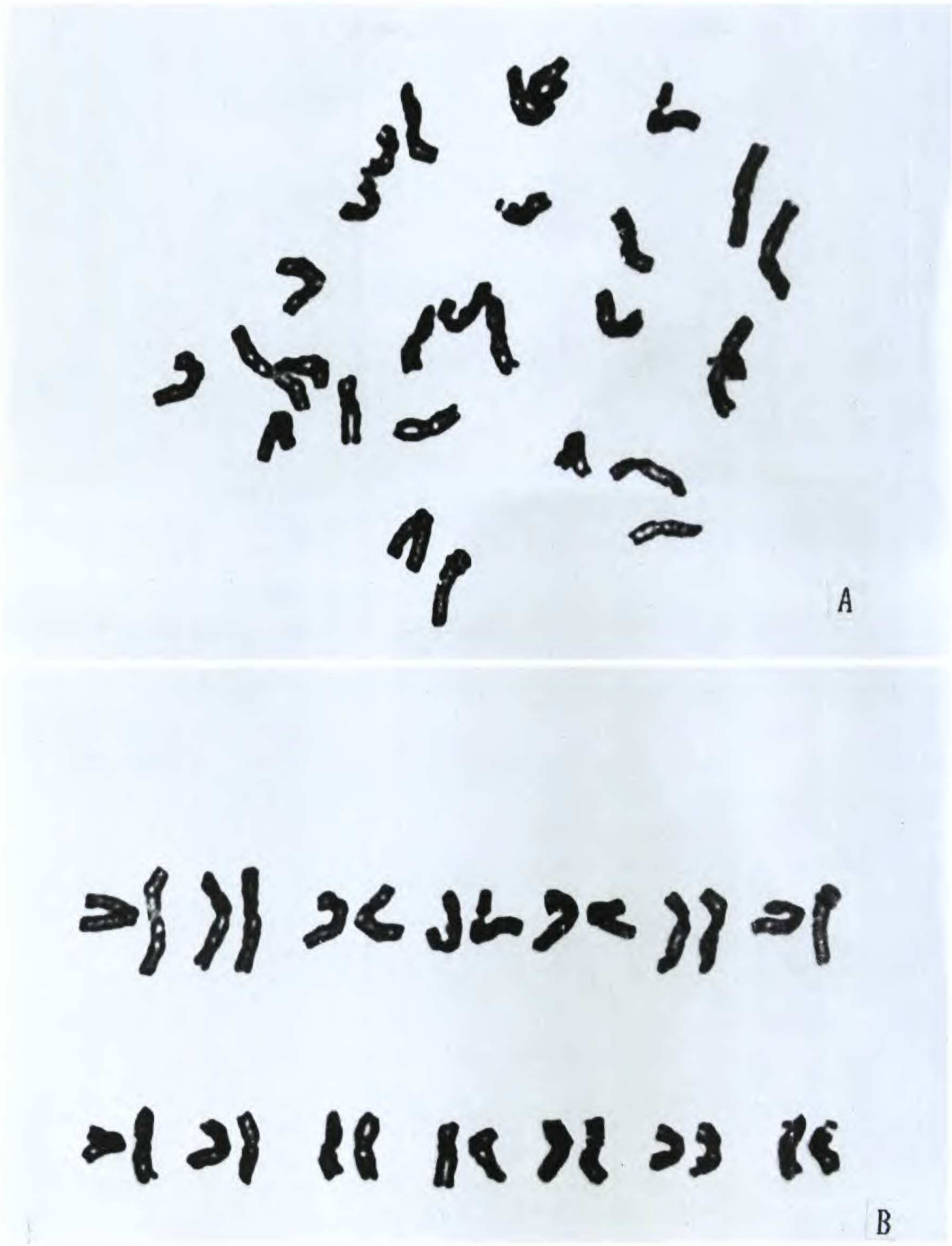

Figure 2. Karyotype of *Roegneria tenuispica*. —A. Metaphase cell of root tip showing $2n = 28$. —B. Karyotype from A, with a pair of satellites on chromosome 14.

Literature Cited

Lu, B. R. & B. Salomon. 1992. Differentiation genomes in Asiatic *Elymus*. Hereditas 116: 121–126.

Zhou, Y. H., G. L. Sun & J. L. Yang. 1993. Study on karyotypes of 5 species of *Roegneria*. Guihaia 13(2): 149–155.